Department of Energy

Bonneville Power Administration
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Reading File Copy

ENVIRONMENT, FISH AND WILDLIFE

August 19, 1999

In reply refer to: KEW-4

Mr. Todd Maddock
Chair
Northwest Power Planning Council
851 SW Sixth Avenue, Suite 1100
Portland, OR 97204

Dear Chairman Maddock:

I recently sent you a letter that included an estimate of Bonneville Power Administration's (BPA) program administration costs for the coming fiscal year (FY00), a statement of some of the projects BPA considers to be "non-discretionary" and specific implementation issues for guidance from the Council. I also stated that a letter describing additional "non-discretionary" projects related to technical support was forthcoming. This letter and enclosure complete our list of "non-discretionary" projects for FY00.

A number of this year's ISRP recommendations bear on projects BPA has defined as "non-discretionary" in previous years. In particular, the role of the PATH process and regional data management are very much at issue. Regardless of the outcome of decisions relative to PATH, BPA continues to have a need for analytical support for decision-making both "real-time" and for longer term planning purposes relative to implementation of the Council's Fish and Wildlife Program and actions called for under various ESA biological opinions. For that reason, we have identified the following additional projects as "non-discretionary": 1) a placeholder project described simply as technical support; 2) two projects providing technical support but needing more detailed explanation of their importance to BPA and the region; and, 3) a specific database management project. These projects not only meet a need that BPA has, but we believe they add significant value to the entire region's efforts to devise and implement fish and wildlife mitigation measures that actually benefit the targeted resource. As BPA implements specific contracts for technical support, it will be on a "time and task" basis in order to track expenses associated with specific work assignments.

As I have discussed with you previously, we are willing to assist you and your staff as you complete your decisions for the Fiscal Year 2000 Annual Implementation Work Plan.

Sincerely,

Robert J. Austin
Acting Manager, Fish and Wildlife

Enclosure

cc:
Brian Allee - Columbia Basin Fish and Wildlife Authority

bcc:
KEW staff
KEWI staff
K. Hunt – KR-7
Official File – KEW-4 (FW-24)

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ENCLOSURE

Anadromous Fish Non-Discretionary Project List for FY 2000

BPA requires the capability to perform technical analyses that support implementation of anadromous and resident fish mitigation measures in the Columbia River Basin. BPA implements mitigation measures in accordance with the Endangered Species Act (ESA) and the Northwest Power Planning Council's Columbia River Basin Fish and Wildlife Program. These technical analyses provide critical information needed to help focus mitigation efforts on actions (both real-time and on a planning basis), intended to provide the greatest survival benefits to the resource with more efficient use of limited mitigation funds. Much of this work provides direct and indirect support for ESA Biological Assessments and consultations, and in-season operations management decisions. BPA needs and uses the support provided by these projects to perform certain intrinsic governmental responsibilities that may not be transferred to other entities. Chief among these is preservation of the Federal agency's ability to make decisions related to the near-term planning and operation of the hydrosystem and to commitment of funds for implementation of fish and wildlife mitigation measures.

Technical Support Project Placeholder

The Technical Support Project (TSP) placeholder can be viewed as an umbrella project that includes a number of projects that were funded in FY99 and were proposed for funding in FY00. The FY99 projects are listed below, along with their estimated budgets for FY00. All or some portion, of these budgets would make up the budget for the TSP placeholder in FY00. The TSP will provide independent scientific analyses required by BPA for ESA Biological Assessments, National Environmental Policy Act environmental documents, and in-season management decisions. In addition, the TSP will provide technical support for BPA's input to regional anadromous and resident fish recovery efforts such as the Federal 4H Caucus process and the Northwest Power Planning Council's Framework Process. Work performed under this project may include participation in other regional collaborative scientific efforts that are yet to be identified for FY00, such as a possible modified PATH process. The initial objectives and scope of this project were identified in the FY00 proposals as primarily PATH-related. However, as the regional need and processes for science support have evolved since these proposals were submitted, so too will the work statements that are currently being developed for the implementation of the TSP. The primary objectives of the TSP are still consistent with the FY00 proposals.

Primary Objectives:

1. Provide objective and independent quantitative analyses of management alternatives for Columbia River Basin salmon and steelhead.
2. Identify and evaluate key scientific hypotheses.

3. Document critical uncertainties and make recommendations for related research, monitoring, and adaptive management alternatives.

Project Tasks:
The primary tasks being developed in the work statements for the TSP will include:

Juvenile and adult passage modeling development, application, and data support
Life-cycle modeling development, application, and data support
Statistical/mathematical methods and applications
Conservation biology /extinction risk applications
Spawner recruitment data development/evaluations
Hydro measures assessments
Habitat measures assessments
Hatchery measures assessments
Harvest measures assessments
Research and experimental management options development/evaluation
Data/scientific literature search, review, and documentation
Internet data exchange/documentation support
Technical report writing and critical reviews
Management framework and performance measures development/review
Regional scientific forums/workgroups participation and coordination

Projects from which funds, goals and objectives for the TSP are taken:

93-037-01: Technical Assistance with Life Cycle Modeling - Paulsen Environmental Research *FY00 Forecast:* $180K

96-017-00: Technical Support - BioAnalysts Inc. *FY00 Forecast:* $109K

98-001-00: Analytical Support - ESA Biological Assessments - Hinrichsen Environmental Services. *FY00 Forecast:* $125K

97-002-00: UW Technical Support - UW. *FY00 Forecast:* $301K

98-006-00: Technical Support - James Anderson Consulting. *FY00 Forecast:* $50K

89-108-00: Monitoring and Evaluation Modeling Support -UW. *FY00 Forecast*: $411K

Additional Technical Support from Specific Projects

91-051-00: M&E Statistical Support for Life Cycle Studies. *FY00 Forecast*: $340K

89-107-00: Statistical Support for Salmonid Survival Studies – UW. *FY00 Forecast*: $185K

Project 91-051-00 provides independent statistical support to BPA and the Northwest fisheries community with independent state-of-the-art, high-quality statistical assistance and guidance on the design, analysis and interpretation of fish tagging studies and other research that improves monitoring and evaluation capabilities and the information available for decision making. This project provides independent scientific and statistical support for life-cycle studies for BPA's participation in consultation processes related to ESA-listed species and in-season operation of the hydrosystem. This project develops new ways of extracting life-cycle information from existing tagging data and provides recommendations on ways to improve existing studies. Historically, this work has been performed under the direction of Dr. John Skalski.

The technical assistance and products provided and disseminated through this project are needed to assure data consistency and comparability related to performance measures and assessment of results through time, to maximize learning and adaptive management opportunities, to improve and maintain the ability to evaluate the success of mitigation efforts and to identify future mitigation options. This project is also needed to help resolve statistical and data analysis issues so that management entities can focus on biological or resource issues rather than on data analysis uncertainties. This project complements, but does not duplicate, analytical services and/or other critical information products provided through other BPA projects.

This project analyzes tagging data so that the "best available information" can be used in decision making. It provides for the analysis and integration of historic and in-season mainstem migration timing data collected by the Smolt Monitoring Program and other mainstem research projects on wild and hatchery-reared salmonid smolts, with emphasis on Snake River and mid-Columbia wild threatened or endangered stocks. This project has developed new approaches and tools which generate on-line Internet-based information including real-time in-season predictions of the general status of Columbia and Snake River smolt outmigrations. This project provides value to historical tagging data by testing hypotheses, estimating parameters, and modeling interrelationships without the costs of additional field studies. Information is being supplied to help design and direct future research efforts and determine reliability of existing information. Historical data has been, and continues to be, explored to reveal possible relationships between ambient river conditions and salmonid survival, outmigration timing, speed, and outmigration success.

This project also promotes information/technology transfer, institutional learning, and adaptive management by: (1) providing independent monitoring and evaluation statistical support to BPA and the fisheries community; (2) developing and making statistical models, design and analysis tools, software, and Internet-based tools available to all parties to improve monitoring and evaluation capabilities; (3) providing real-time Internet-based value-added information products and data integration capabilities for use by NMFS, TMT, and other members of the fisheries community to assist in-season management of fish and river resources (for example: historical timing and real-time predictions of the status of smolt migrations for ESA stocks, NMFS Snake River and Mid-Columbia River ESUs, and other Columbia Basin fish populations); and, (4)

publishing results on the development and design of analysis tools, the analysis of historical and real-time tagging data and other information for use by the fisheries community, the NPPC and expert scientific forums like the Independent Scientific Advisory Board (ISAB) and the Independent Scientific Review Panel (ISRP).

The analytical and information support services provided by this project are needed to help meet the continuing demands for sound, consistent, statistical analysis of tagging data and the dissemination of results in a timely manner in order to evaluate and monitor the success of mitigation activities in the Columbia River Basin. The specific analytical support activities required each year will change to meet the needs of BPA and the Northwest fisheries community in their ongoing efforts to enhance and recover Columbia River Basin salmon runs.

Project 89-107-00 builds, maintains and enhances statistical software and computational capabilities to meet the changing requirements of Columbia River Basin survival studies across all salmonid life stages. The products and support this project provides are responsible for the initiation and ongoing success of the NMFS PIT-tag survival studies and more recently have contributed to the initiation of mid-Columbia radiotelemetry survival studies, their designs and analyses. BPA believes that we need to maintain this technical service and capability to meet the needs of NMFS and other users in the region and also to provide consistency in the application of methodologies for survival estimation across all life cycle stages. This consistency will help maximize learning, facilitate use of adaptive management, and provide the ability to evaluate the success of mitigation measures.

BPA also believes that the independent information produced by this project guides and supports BPA's decisions pertaining to its responsibilities under the Power Act, the Endangered Species Act, NEPA and other public responsibilities. This includes our independent decisions pertaining to the near-term (e.g. inseason) planning and operation of the FCRPS. In addition, this project contributes to the implementation of Biological Opinion requirement RPA 13 (comprehensive monitoring and evaluation and research program) in a manner sufficient to help satisfy BPA's ESA responsibilities.

Although the ISRP recommended not funding this project in FY00, CBFWA and the ISRP did approve this project for funding just last year. In FY99, the ISRP was very supportive except for the comment that the project seemed closely related to project 91-051-00 (see above). The ISRP suggested that these two projects could be combined, a comment that was repeated in FY00. In its FY00 recommendation, the ISRP mistakenly associated project 89-107-00 with the PATH effort and, hence, it received the recommendation to be phased out. The CBFWA FY00 comments suggest that the salmon managers do not use the services this project provides and the costs of such services should be captured under any projects that use them.

Projects 91-051-00 and 89-107-00 can be distinguished as follows: Project 91-051 analyzes existing tagging data to extract information on salmonid life history relevant to resource managers. The project also helps identify what can and cannot be obtained from existing tagging

studies and current methods. On the other hand, project 89-107 develops new statistical tools for obtaining better and more detailed information from salmonid tagging studies. Its goal is to assure the availability of design and analysis capabilities as tagging studies attempt to address new research issues.

Why 89-107-00 needs to remain a stand-alone project:

The purpose of project 89-107-00 is to develop the statistical theory for extracting maximal information from salmonid tagging studies. This mathematical work leads to new study designs and estimation techniques that often become adopted in the Columbia River Basin. The talents needed for this project include mathematical and applied statisticians, experts in numerical analysis, and computer programming. The composition of this research team is very different from typical field-oriented projects. The management skills, facilities, and research approaches are also very different from typical field-oriented projects. These technical, managerial, and pedagogical differences are why major statistical advances in tag-recapture methods have not generally occurred as a subcomponent of larger field programs.

The fact that the project has successfully spearheaded PIT-tag survival study development and now radio-tag survival studies in the Columbia River Basin suggests that the current project structure works. Similar organizational structures can often be found in state fish and wildlife programs where research and management divisions are separate and successful.

Database Support

Project 96-019-00: Second-Tier Database Support for Ecosystem Focus. *FY00 Forecast:* **$195K**

Project 96-019 provides single-point, Internet-based access to a subset of fishery, hydraulic, project operation, and environmental information vital to in-season decision making on operations of the Federal Columbia River Power System. This complements, but does not duplicate, existing historical and in-season database services provided by Project 88-108-04 (StreamNet), Project 94-033-00 (Fish Passage Center), and other regional databases by accumulating certain datasets that are reported only in single- or several-day reports from regional, primary data sources. This project also reduces user impacts to Project 90-080-00 (PTAGIS) which emphasizes data polling and quality control over data analysis and presentation. A second-tier database adds value to a data set by providing ease of access and pathways for analysis.

This project provides database services critical to the Corps of Engineers' TMT Internet services, which are used by federal, state, and Tribal entities throughout the year. This project also generates historical and inseason data sets critical to Project 91-051-00 (Monitoring and Evaluation Statistical Support for Life Cycle Studies) and Project 89-108-00 (Monitoring and Evaluation Modeling Support) which generate on-line, internet-based forecasts of inseason

passage stage and survival for ESA stocks considered by the TMT. These forecasts are one data element included in the Internet-based administrative record of the TMT.

Since 1995, second-tier services prototyped under Projects 89-108, 91-051, and 92-071-04 benefited from the availability of no-or low-cost computer capacity, expertise, and infrastructure associated with BPA contracts with the University of Washington and Battelle Northwest Laboratory. Beginning in FY99, work activities and costs associated with providing second-tier services under Projects 89-108-00 and 91-051 were transferred to Project 96-019-00.

The ISRP recommended FY00 funding of this project with subsequent funding contingent on a programmatic information management review (as recommended in the ISRP's FY99 report). Such a review should evaluate the possibility of combining the data processing functions of the Fish Passage Center, PTAGIS (direct data), StreamNet, and DART. The review should also address the roles and responsibilities of regional entities involved in the three major areas of information management, i.e., data collection, quality control, and data analysis. The governing principle for future information systems should be to provide equal access to high quality information coupled with equal opportunity for independent analysis.